

IN THE CLAIMS

Claim 18. (Currently Amended) A process for the preparation of a polymeric absorbent useful for gelling organic liquids consisting essentially of :

a) mixing *in situ* one or more monomers comprising multifunctional monomers, wherein the monomer contains a hydrophobic group and hydrophilic ~~group in a molar ratio of hydrophobic to hydrophilic groups of 1.0:0.1~~, with a cross linking agent and a free radical initiator;

b) subjecting the mixture to polymerization in the presence of a transition metal source;

c) removing the polymer;

d) crushing the polymer to obtain a polymer powder;

e) washing with a solvent;

f) drying the polymer to remove unreacted monomers; and

g) swelling the polymer in an alcohol to obtain the polymeric ~~absorbant~~ absorbent.

19. (Previously Presented) The process as claimed in claim 18, wherein the one or more monomers are polymerized in the presence of a solvent.

20. (Cancel) ~~The process as claimed in claim 18, wherein the one or more monomers are polymerized in the presence of a transition metal source.~~

21. (Currently Amended) The process as claimed in claim ~~20~~ 18, wherein the transition metal source is selected from the group consisting of metal, metal salts, and metal complexes of cobalt, chromium, copper, manganese and iron.

22. (Previously Presented) The process as claimed in claim 21, wherein the transition metal source is selected from the group consisting of chromium trioxide, cobalt chloride, manganese hydroxide and ferric oxide.

23. (Currently Amended) The process as claimed in claim ~~20~~ 18, wherein the transition metal source is in an amount between 10 ppm to 250 ppm.

24. (Previously Presented) The process as claimed in claim 19, wherein the solvent is selected from the group consisting of water, alcohol, 1,4-dioxane, dimethyl sulfoxide, dimethyl formamide, benzene, xylene and mixtures thereof.

25. (Previously Presented) The process as claimed in claim 18, wherein one or more monomers are of the formula $\text{CH}_2=\text{CH}-\text{R}_1-\text{R}_2-\text{R}_3$ wherein R_1 and R_3 are hydrophilic groups and R_2 is a hydrophobic group.

26. (Previously Presented) The process as claimed in claim 25, wherein R_1 and R_3 are each selected from the group consisting of amide, ester, sulfonic acid, carboxylic acid, hydroxyl functional groups and mixtures thereof.

27. (Previously Presented) The process as claimed in claim 25 wherein R_2 is selected from the group consisting of primary, secondary or tertiary aliphatic saturated or unsaturated hydrocarbons selected from acrylamides and derivatives thereof listed in the Table below:

Acrylamide derivative
2-acrylamideo 2 – methylpropane sulfonic acid N – tertiary butylacrylamide N – octylacrylamide Acrylic acid N – propylacrylamide N – isopropylacrylamide

Ester derivative
2 – hydroxyethylmethacrylate Methylacrylate
Copolymers
2 – acrylamido 2 – methylpropane sulfonic acid copolymers with N – alkylacrylamides
Amino acids
Acryloyl – 4 – aminobutyric acid Acryloyl – 6 – aminocaproic acid Acryloyl – 11,ω – amino acid Acryloyl L – leucine Acryloyl L – glycine Acryloyl L – proline Acryloyl o – alanine
Hydroxyl group
Polyethylene glycols Polyethylene oxide

and mixtures thereof.

28. (Previously Presented) The process as claimed in claim 18, wherein the one or more monomers in the polymerization mixture is between 1 mole % to 99 mole %.

29. (Currently Amended) The process as claimed in claim ~~27~~ 18, wherein the one or more monomers in the polymerization mixture is between 9 mole % to 91 mole %.

30. (Previously Presented) The process as claimed in claim 18, wherein the cross-linking agent is selected from an acrylic, methacrylic, styrenic group, or a mixture thereof.

31. (Previously Presented) The process as claimed in claim 30, wherein the cross-linking agent is selected from the group consisting of N, N-methylene bisacrylamide, ethylene glycol dimethacrylate, ethylene glycol diacrylate, trimethylol propane triacrylate, trimethylol propane trimethylacrylate, divinyl benzene and mixtures thereof.

32. (Previously Presented) The process as claimed in claim 31, wherein the cross-

linking agent is selected from N, N-methylene bisacrylamide and ethylene glycol dimethacrylate.

33. (Previously Presented) The process as claimed in claim 18, wherein the mole percent of the multifunctional monomer is in the range of 0.1 mole % to 40 mole %.

34. (Previously Presented) The process as claimed in claim 18, wherein the mole percent of the multifunctional monomer is in the range of 1 mole % to 30 mole %.

35. (Previously Presented) The process as claimed in claim 18, wherein the mole percent of the multifunctional monomer is in the range of 5 mole % to 20 mole %.

36. (Previously Presented) The process as claimed in claim 18, wherein the free radical initiator is selected from the group consisting of azo groups, peroxides, hydroperoxides, persulphates and mixtures thereof.

37. (Previously Presented) The process as claimed in claim 36, wherein the free radical initiator is selected from azo and persulphates.

38. (Currently Amended). The process as claimed in claim 18, further comprising tetramethyl ethylenediamine as a polymerization accelerator in an amount between 1% to 4% of the monomer wherein the free radical initiator of a) is a persulphate, and ~~the solvent of a) is water~~ is used in water.

39. (Previously Presented) The process as claimed in claim 18, wherein the polymerization is carried out at a temperature in the range of 50-90°C.

40. (Previously Presented) The process as claimed in claim 39, wherein the polymerization is carried out at a temperature in the range of 50-70°C.

41. (Previously Presented) The process as claimed in claim 18, wherein the polymeric absorbent is prepared in a water-alcohol mixture in the composition range of greater than 0 to 100 volume percent of alcohol.

42. (Previously Presented) The process as claimed in claim 41, wherein the polymeric absorbent is prepared in a water-alcohol mixture in the composition range of greater than 0 to 75 volume percent of alcohol.

43. (Previously Presented) The process as claimed in claim 18, wherein the one or more monomers have a concentration in the range of 5-50 wt. %.

44. (Currently Amended) The process as claimed in claim ~~42~~ 18, wherein the one or more monomers have a concentration in the range of 5-20 wt. %.